



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** Mike Fowler, Paul Brindza

**DATE:** Mar 09 2004

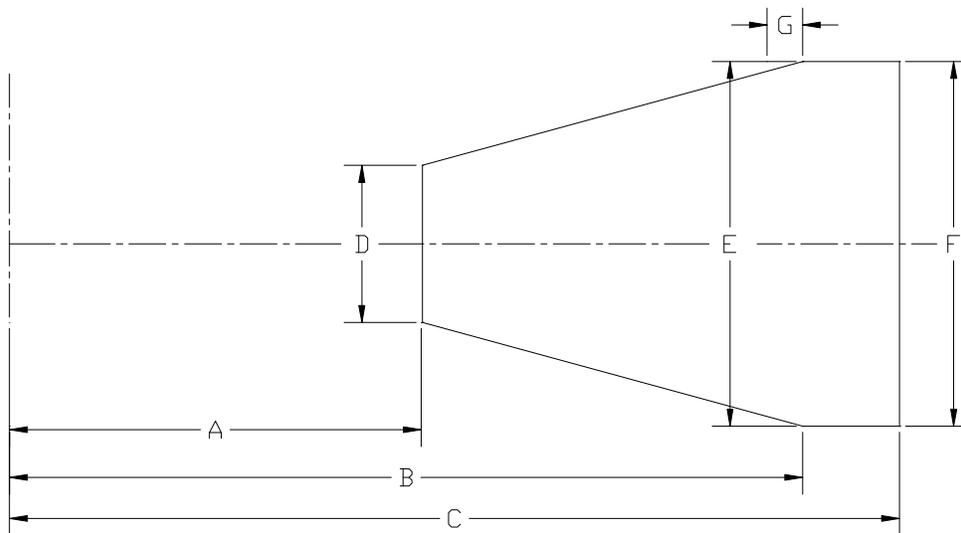
**FROM:** Kelly Tremblay

**Checked:**

**# :** C919

**DETAILS:**

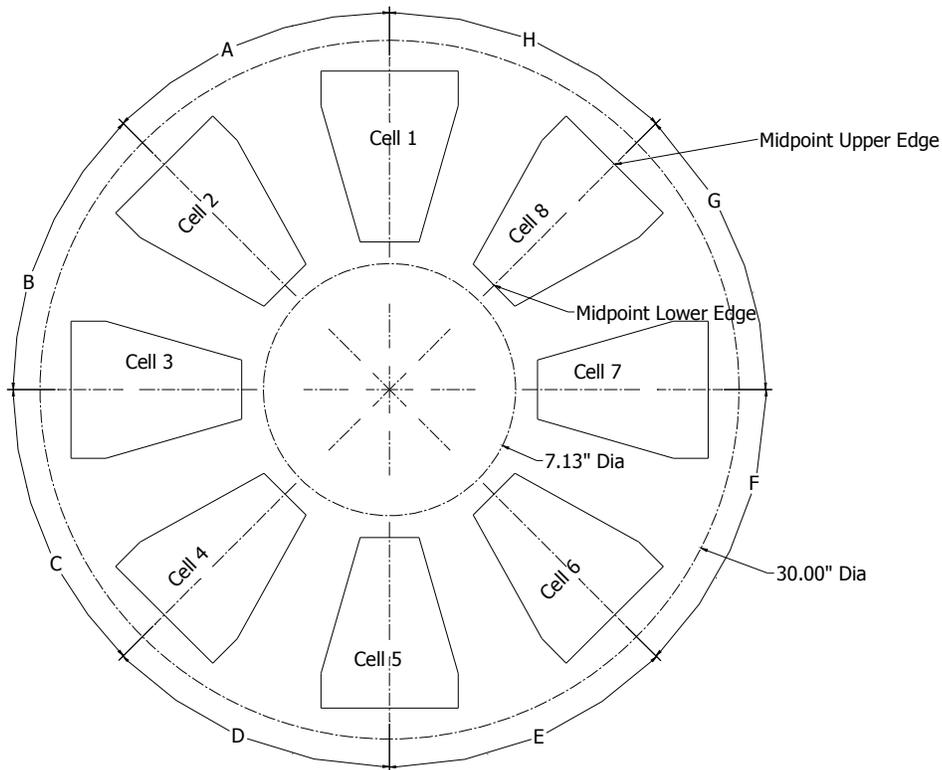
Check measurements were performed on the qweak pre-collimator on March 4<sup>th</sup>, 2004. The following drawing references dimensions calculated from the measurements taken on each of the openings on the collimator. The calculated dimensions are shown for the upstream and downstream collimators. Calculated angular measurements between the centerlines of each opening are also shown below. The ideal dimensions are shown in row 2 of each table. Dimensions are inches and degrees.



Quadrant	A	B	C	D	E	F	G
Upstream	4.18	8.03	9.01	1.67	3.88	3.88	0.00
Cell 1	4.14	8.27	9.04	1.76	4.30	4.01	0.10
Cell 2	4.11	8.34*	9.03	1.68	4.05	3.93	0.28
Cell 3	4.06	8.19*	8.83	1.55	4.03	3.92	0.38
Cell 4	4.09	8.33*	9.02	1.59	4.06	3.94	0.26
Cell 5	4.13	8.42*	9.05	1.62	4.11	3.97	0.23
Cell 6	4.18	8.60*	9.07	1.68	4.09	3.96	0.19
Cell 7	4.23	8.29	9.04	1.57	4.12	3.97	0.06
Cell 8	4.14	8.44*	8.98	1.61	4.10	3.90	0.41

Quadrant	A	B	C	D	E	F
Downstream	4.66	8.70	9.78	1.83	4.16	4.16
Cell 1	4.64	8.71	9.81	1.88	4.30	4.27
Cell 2	4.63	8.68	9.78	1.89	4.27	4.23
Cell 3	4.63	8.68	9.76	1.89	4.22	4.21
Cell 4	4.62	8.70	9.76	1.85	4.26	4.22
Cell 5	4.64	8.75	9.82	1.86	4.29	4.28
Cell 6	4.67	8.73	9.83	1.84	4.24	4.23
Cell 7	4.69	8.80	9.87	1.85	4.25	4.22
Cell 8	4.70	8.73	9.83	1.88	4.22	4.20

Cells with an asterisk are averaged. Angular values between openings were also calculated based on a line constructed from the mid points on the upper edge of the openings and the midpoint of lower edge. Ideal value for the angles is 45.0°.



Angles	A	B	C	D	E	F	G	H
Upstream	43.0°	45.2°	44.9°	44.9°	44.5°	44.6°	45.8°	47.1°
DownStream	43.0°	44.8°	44.2°	45.4°	44.6°	46.0°	44.8°	47.2°

Average width for the pre-collimator was 4.3 inches. Measured diameters are outlined below.

Diameters	Inner Circle	Outer Circle
Upstream	7.16	31.00
DownStream	7.12	31.00